The Planning and Peer Review of California's Proposed High-Speed Train System

What work has been done so far?

Over the last 10 years, the Authority has carefully and extensively done the studies necessary to prepare for the implementation of high-speed trains in California. All the Authority's many published reports are available on this website. The Authority, whose studies were developed and reviewed by experts who know California, how we travel, and how high-speed trains operate and what they cost, is convinced that high-speed trains will work as they have been presented, will improve our travel opportunities, will create jobs and improve our economy beyond what building only more highways and airports would do, will remove meaningful amounts of greenhouse gases from the air, will save energy, will improve our urban areas, will save some of the best open spaces and farmland in the world, will greatly benefit California and be a smart investment for our future.

The Authority maintains a small staff with nearly all of the Authority's work contracted out to the private sector through the State's competitive bid process. The consultants working under contract with the Authority were selected based upon their extensive experience in the design and implementation of high-speed train systems as well as their extensive experience planning, designing, and constructing other transportation projects in California. The Authority currently has working under contract: a Program Management Team, 8 Regional Engineering/Environmental Teams, a Financial Planning Team, a Visual Simulation Consultant, U.C. Berkeley Research Project (led by Professor Deakin), and a Program Management Oversight Team.

The Authority's work builds upon the feasibility studies done by the Intercity High-Speed Rail Commission (1993-1996), and is consistent with the findings of the Federal Railroad Administration's Commercial Feasibility Study (September 1997, downloadable at http://www.fra.dot.gov/us/content/31)

The Authority's work includes:

<u>Detailed Feasibility Studies (1997- 2000)</u>:

Detailed feasibility studies were required to complete the Authority's June 2000 Business Plan. The Business Plan details a practical approach to constructing, operating and financing a high-speed train system; and conveys a reasoned assessment of how California can accommodate the intercity travel needs of 45-50 million Californians by 2020. Published reports include:

- Corridor Evaluation (technology evaluation, potential alignments, capital costs, travel times, operational and maintenance costs, etc.)
- Ridership and Revenue Forecasts and Cost/Benefit Analysis
- Project Deliveries Strategy
- Financial Plan
- Business Plan

Statewide Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS) Studies (2001-2005):

Following completion of the Business Plan, the Authority initiated the formal environmental process necessary to construct the system. It was determined that a "two-tiered" approach was needed to achieve state and federal environmental clearance for this very large (800-mile) infrastructure project. The first tier, a Statewide Program EIR/EIS (done at a conceptual level of design), took over 4-years to complete and was certified in November 2005. The Authority is now undertaking multiple second-tier project-level environmental documents (with preliminary engineering design) needed to achieve full environmental clearance for the preferred high-speed train alignment.

Extensive study was needed to complete the Authority's and Federal Railroad Administration's Statewide Program EIR/EIS Process. In this legal environmental document, the High-Speed Train Alternative was the selected system alternative and was identified as the environmentally preferred alternative under National Environmental Protection Act (NEPA), as well as the environmentally superior alternative under California Environmental Quality Act (CEQA). This document concluded that high-speed trains can decrease dependency on foreign oil, preserve energy, decrease air pollutants, and discourage sprawl while having less impacts on the natural environment than expanding highways and airports. It also found that our current infrastructure (the "No Project" Alternative) cannot meet California's future intercity transportation demands.

Steel-wheel-on-steel-rail high-speed trains extensively proven in regular revenue service and capable of speeds exceeding 200 mph were selected as the preferred technology. A preferred alignment and station locations were selected for most of the statewide high-speed train system. The certified Statewide Program EIR/EIS gives the Authority the legal authority to purchase right-of-way on a hardship basis and to focus project-level analysis on smaller segments of the system, and to reduce the number of alternatives investigated at the project-level.

The Final Statewide Program EIR/EIS Document is a three volume report (over 3,000 pages long). This document meets all CEQA and NEPA requirements and includes a Summary and Chapters on: Purpose and Need, Alternatives, Environmental Impacts, Costs and Travel Times, Economic Impacts, Preferred Alternative, and Public Outreach. The document includes the thousands of comments received on the Draft Statewide Program EIR/EIS and detailed responses to each comment. There are about 100 supporting technical reports developed as part of the Statewide Program EIR/EIS process. These reports include:

- Draft and Final Scoping Reports
- Screening Evaluation
- Environmental Methodologies
- Alignment Configuration and Cross-Sections
- Capital Costs and Operational and Maintenance Costs

- Economic Growth Effects
- Engineering Criteria
- Operations
- Tunneling Issues
- Statewide Environmental Technical Reports for Air Quality, Energy, and Agriculture
- Regional Environmental Technical Reports for Biology, Hydrology, Land Use, Traffic, Noise, Parklands, Visual Impacts, Cultural Resources, Geology, Paleontological Resources, Public Utilities, Hazardous Waste, and Cumulative Impacts.

Implementation Plan (2004-2005)

The implementation plan summarizes the California high-speed project - its alignment, stations and technologies - as well as its financial and economic profile. It also lays out the roadmap for the Authority's evolution, from a planning authority with a small staff to a construction management agency and, finally, to a comprehensive long-term manager of operations and assets.

Bay Area to Central Valley High-Speed Train Program EIR/EIS (2006-2008)

The statewide Program EIR/EIS did not provide enough information to select a preferred alignment between the Central Valley and the Bay Area (a broad corridor was selected). Therefore, the Authority and FRA prepared an additional program EIR/EIS that further examines the San Francisco Bay Area to Central Valley region. This second program EIR/EIS generally describes the environmental impacts of a proposed high-speed train system within the broad corridor between and including the Altamont Pass and Pacheco Pass. Two broad alternatives are considered: 1) No Project Alternative; and 2) High-Speed Train Alternative (consisting of a range of alignment alternatives and station location options). The Final Program EIR/EIS identifies the Pacheco Pass serving San Francisco and San Jose termini as the preferred alternative, as well as mitigation strategies, design practices, and further measures to guide the system's development and avoid and minimize potential adverse environmental impacts. In addition, the Authority has made a commitment to pursue a joint-use ("Regional Rail" and high-speed train) infrastructure project in the Altamont Pass corridor with regional and local partners – as advocated in the Metropolitan Transportation Commission's "Regional Rail Plan for the San Francisco Bay Area" (September 2007).

The Final Bay Area to Central Valley High-Speed Train Program EIR/EIS Document is a three volume report (nearly 3,000 pages long). This document meets all CEQA and NEPA requirements and includes a Summary and Chapters on: Purpose and Need, Alternatives, Environmental Impacts, Costs and Travel Times, Economic Impacts, Comparison of High-Speed Train Alignment and Station Alternatives, Preferred Alternative, and Public Outreach. Conceptual engineering plan and profiles and typical sections are provided for each high-speed train alignment alternative. This Program EIR/EIS document utilized new statewide ridership and revenue forecasts that were done in partnership with the Metropolitan

Transportation Commission (MTC). The document includes the thousands of comments received on the Draft Program EIR/EIS and detailed responses to each comment.

Financial Planning (2006-present)

The Authority awarded a Financial Planning contract in late 2006 to a team of financial experts. In May 2007, the Authority published the "High-Speed Train Preliminary Funding Strategy and Financing Plan". This plan concluded that the project's funding will likely comprise private and public sources; however, support from local, state and federal sources will be particularly important in early development. It also concluded that the State can issue the $9.95 billion in GO debt scheduled on the November 2008 ballot, without exceeding the Administration's current debt capacity guidelines.

In March 2008, the Authority announced the release of a Request for Expressions of Interest (REFI) for Private Participation in the Development of a High-Speed Train System in California. Through the responses to the REFI, the Authority gained a better understanding of how the Project and State can benefit from private sector participation while also garnering an appreciation for key considerations that may encourage or dissuade private sector participation, such as phasing, timing and risk. The Authority sought input from respondents as to potential interest in participating in the development aspects of a high-speed train system, including perspectives on project delivery methods and private project financing.

The REFI included the following downloadable documents:

* Exhibit A: This exhibit provides information on the Authority itself, including its authorizing statute.
* Exhibit B: This exhibit provides information on the proposed high-speed train system, including a system map, environmental documents, capital and operating cost estimates, and ridership and revenue forecasts.
* Exhibit C: This document provides information on the proposed funding sources that would support the development of the high-speed train system, including a preliminary financial plan, and information related to potential State and federal funds.
* Exhibit D: This document provides information on the environment for public-private partnerships in California.

Has there been independent review of the High-Speed Rail Authority's studies?

Yes, there has been extensive independent review of the Authority's studies.

A public infrastructure investment of this magnitude requires extensive oversight, accountability and peer review. The Authority's studies are overseen and governed by board members appointed by the governor, Assembly speaker and Senate Rules Committee, similar to the California Transportation Commission. The Department of Finance has annual budget review and the state Attorney General provides oversight and counsel.

The Authority is a public (State) agency and all of the Authority's work has been subject to extensive agency and public review. This project has been held under a microscope during hundreds of legislative hearings, public meetings, information forums and meetings with public officials, agencies, new reporters, editorial boards and private interests explaining the proposed project and responding to inquiries about it.

After the completion of the Authority's June 2000 Business Plan, the Authority hired the consulting arm of national railroads from three countries to peer review the Business Plan and supporting technical studies. SNCF (French), DE Consult (German), and JARTS (Japan), representing the three countries with the most experience operating high-speed trains, each submitted and presented reports confirming the Authority's assumptions, and conclusions – including high-speed train design criteria, capital and operational costs, travel times, ridership and revenue forecasts and alignment assumptions.

Using peer-reviewed private contractors, two Program-Level Environmental Impact Report and Environmental Impact Statement documents have been prepared to comply with California and federal law. The Statewide Program EIR/EIS document (which included high-speed train design criteria, ridership and revenue forecasts, capital and operating costs, and travel times) was certified in November 2005 – without any legal challenge. The document was done in partnership with the Federal Railroad Administration (FRA) and was fully reviewed and approved by the FRA. In response to the Draft Statewide Program EIR/EIS document, the Authority received written comment letters from six federal agencies, 12 state agencies and 83 local agencies, and thousands of comments from individuals, organizations, and agencies. As part of the Final Statewide Program EIR/EIS the Authority and FRA fully responded to each of the comments.

The Authority and FRA recently completed the Bay Area to Central Valley High-Speed Train Program EIR/EIS document (certified by the Authority on July, 9th 2008). Again, this document (which included high-speed train design criteria, ridership and revenue forecasts, capital and operating costs, and travel times) fully responded to comment letters received from 6 federal agencies, 6 state agencies, 29 local agencies and thousands of comments from individuals, organizations, and agencies.

Ridership and revenue forecasts were conducted by Charles River and Associates (1995-2000) for the Authority. More recent forecasts currently used by the Authority were developed by an independent study done by Cambridge Systematics (2006-2008). The Cambridge Systematics study was financed and managed by the Metropolitan Transportation Commission (MTC). Cambridge Systematic's ridership and revenue model was developed and verified from thousands of intercept surveys of in-state auto, rail and air travelers as well as Census Bureau, Federal Aviation and National Department of Transportation data. MTC assembled a peer review panel comprised of local, national, and international travel model experts to provide an objective and independent review of the modeling assumptions, methodologies, and results during each stage of model development for the Cambridge Systematics study.

Throughout the last ten years, the Authority has sought comment from high-speed train operators, manufacturers, the construction industry, private sector, public agencies, organizations, and other

interested parties. The Authority has entered into Memorandum of Understandings with the French, Japanese, and Spanish Governments to exchange information.

How do the High-Speed Rail Authority's studies compare to other high-speed train studies?

The Authority has concluded that there is high ridership potential in California for high-speed train service and that revenues from the system are expected to significantly exceed operational and maintenance costs. This conclusion is consistent with the independent work done by the MTC (2006-2008), the Federal Railroad Administration's (FRA's) Commercial Feasibility Study (September 1997), the work of the Intercity High-Speed Rail Commission (1993-1996), and U.C. Berkeley high-speed train studies (Revenue and Ridership Potential for a High-Speed Rail Service in the San Francisco/Sacramento-Los Angeles Corridor, February 1994).

The FRA and U.C. Berkeley came to similar conclusions as the Authority, while using assumptions and data that greatly reduced high-speed train ridership potential. The FRA studied a high-speed train system for California that did not include the link to Sacramento (and Northern San Joaquin Valley) nor service to the Inland Empire (Riverside/San Bernardino Counties and the fast growing I-15 Corridor) while U.C Berkeley only modeled high-speed service between Sacramento, the Bay Area and Los Angeles Union Station (not including service to Orange County, the Inland Empire, or San Diego). The FRA and U.C Berkeley studies did not have detailed information regarding intercity automobile travel in California, did not include any commuter automobile trips (intercity or within regions), assumed maximum high-speed train speeds of 200 mph (since they were done over ten years ago), had earlier forecast years (2020 and 2010 respectively), and were done at a time when gas was about $1 per gallon.

High-speed train lines worldwide generate surpluses from their operations, unlike traditional passenger service. High-speed trains attract more passengers, generate more revenues and have lower unit costs of operation (e.g., a crew can make two round trips a day instead of one). The resulting combination of higher revenues and lower unit operating costs has made all existing high-speed train services net contributors to the financial performance of their operators. For more information on the experience of other existing high-speed train lines, please see the answer to the frequently asked questions "Do revenues from existing high-speed trains exceed operational costs?" under ***Other High-Speed Trains Systems.***

Are the High-Speed Rail Authority's studies available to the public?

Yes, all the Authority's work is available to the public and published reports are available on this website. The "Library" section of the website contains links to official published reports of the Authority, including environmental documents as well as business and implementation plans. This is a searchable library of all documents associated with the Authority. This repository holds publicly accessible technical and administrative documents. ***Common Searches*** are pre-compiled and listed as "Library Topics." Please see: http://www.cahighspeedrail.ca.gov/library/